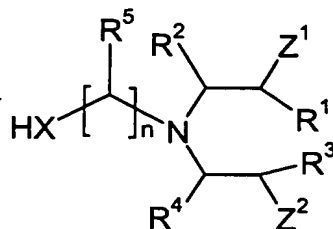


We claim:-

1. A process for preparing hyperbranched polymers which comprises reacting compounds of the formula I



where

X is sulfur or oxygen,

R¹ and R³ are identical or different and are hydrogen, C₁-C₆ alkyl, C₃-C₁₂ cycloalkyl or C₆-C₁₄ aryl,

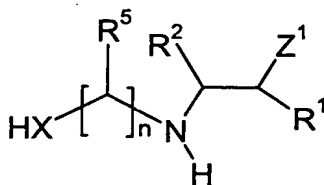
R² and R⁴ are identical or different and are hydrogen, C₁-C₆ alkyl, C₃-C₁₂ cycloalkyl, C₆-C₁₄ aryl,

Z¹ and Z² are identical or different and are COOH or COOR⁶, the radicals R⁶ being identical or different and being C₁-C₆ alkyl, formyl or CO-C₁-C₆ alkyl,

R⁵ identically or differently at each occurrence is C₁-C₆ alkyl or hydrogen, and

n is an integer from 2 to 10,

optionally with at least one compound of the formula Ia



where the variables are as defined above,

in the presence of a catalyst.

2. The process according to claim 1, wherein R^1 and R^3 in formula I are identical.
3. The process according to claim 1 or 2, wherein R^2 and R^4 in formula I are identical.
- 5 4. The process according to any of claims 1 to 3, wherein Z^1 and Z^2 in formula I are each COOH.
- 10 5. The process according to any of claims 1 to 3, wherein Z^1 and Z^2 in formula I are each COOR⁶.
6. The process according to any of claims 1 to 3 and 5, wherein the radicals R^6 in formula I are each identical.
- 15 7. The process according to any of claims 1 to 4, wherein R^1 and R^3 in formula I are each identical and are methyl or hydrogen, R^2 and R^4 in formula I are each hydrogen, and Z^1 and Z^2 in formula I are each COOR⁶.
- 20 8. The process according to any of claims 1 to 7, wherein from 0 to 1 000% by weight of compound of the formula I a are used, based on compound of the formula I.
9. The process according to any of claims 1 to 8, wherein the reaction is carried out in the presence of at least one polyfunctional compound.
- 25 10. The process according to any of claims 1 to 9, wherein the reaction is carried out in the presence of at least one enzyme.
- 30 11. The process according to any of claims 1 to 9, wherein the reaction is carried out in the presence of an acidic inorganic, organometallic or organic catalyst or a mixture of two or more acidic inorganic, organometallic or organic catalysts.
- 35 12. A hyperbranched polymer obtainable by the process according to any of claims 1 to 11.
13. A process for preparing hydrophilically modified hyperbranched polymers, which comprises reacting the hyperbranched polymer according to claim 12 with a hydrophilic compound.

14. A hydrophilically modified hyperbranched polymer obtainable by the process according to claim 13.
- 5 15. A process for preparing hydrophobically modified hyperbranched polymers, which comprises reacting the hyperbranched polymer according to claim 12 with at least one hydrophobic alcohol.
- 10 16. A hydrophobically modified hyperbranched polymer obtainable by the process according to claim 15.
- 15 17. A process for preparing hyperbranched polymers modified with at least one ethylenically unsaturated compound, which comprises reacting the hyperbranched polymer according to claim 12 with at least one alcohol or amine which has an ethylenically unsaturated double bond.
- 20 18. A hyperbranched polymer modified with at least one ethylenically unsaturated compound, obtainable by the process according to claim 17.
- 25 19. The use of the hyperbranched polymer according to claim 12 for producing an adhesive, coating, foam, covering, printing ink or varnish, especially a print varnish.
- 20 20. A printing ink prepared using the hyperbranched polymer according to claim 12.
- 25 21. A print varnish prepared using the hyperbranched polymer according to claim 12 or using the hyperbranched polymer modified with at least one ethylenically unsaturated compound according to claim 18.